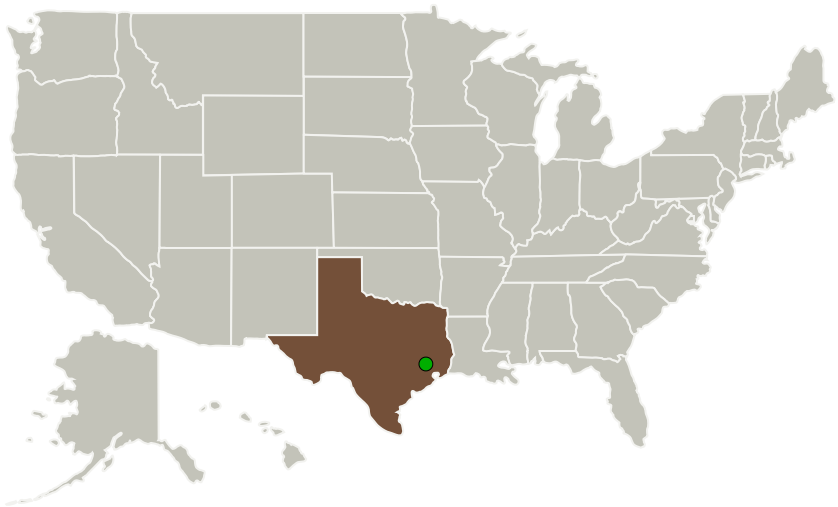
Semantic Language and Tools for Reporting Human Factors Incidents, Phase II

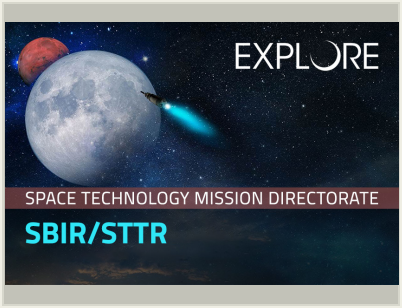
Completed Technology Project (2010 - 2012)

Project Introduction

Incidents related to impaired human performance in space operations can be caused by environmental conditions, situational challenges, and operational deficiencies. Detecting, reporting, and correlating related incidents are key to preventing future incidents. NASA has made significant progress in standardizing the reporting of space incidents by developing electronic data entry and storage of information. While such information technology improves report consistency, incident data are not represented in a way that enables advanced computer-based reasoning about incidents. TRACLabs proposes to develop a human factors incident-reporting tool for authoring and utilizing human factors incident data. This project is innovative in combining semantic web technologies with automated assistive technologies to aid users in finding relationships among incidents. The semantic indexing provided by the use of incident reporting language permits more sophisticated search of archives. During Phase I we defined a semantic language for incident reporting in XML and designed a technology approach for authoring and utilizing incident reports represented in this language. In Phase II we will implement this software and evaluate its effectiveness for the space human factors community at JSC. At the end of Phase II, software for reporting space human factors incidents will be delivered to NASA.

Primary U.S. Work Locations and Key Partners





Semantic Language and Tools for Reporting Human Factors Incidents, Phase II

Table of Contents

Small Business Innovation Research/Small Business Tech Transfer

Semantic Language and Tools for Reporting Human Factors Incidents, Phase II

Completed Technology Project (2010 - 2012)

Organizations Performing Work	Role	Type	Location
TRACLabs, Inc.	Lead Organization	Industry	Webster, Texas
Johnson Space Center(JSC)	Supporting Organization	NASA Center	Houston, Texas

Primary U.S. Work Locations
Texas

Project Transitions

June 2010: Project Start

December 2012: Closed out

Closeout Summary: Semantic Language and Tools for Reporting Human Factor s Incidents, Phase II Project Image

Closeout Documentation:

- Final Summary Chart Image*(https://techport.nasa.gov/file/139434)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

TRACLabs, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

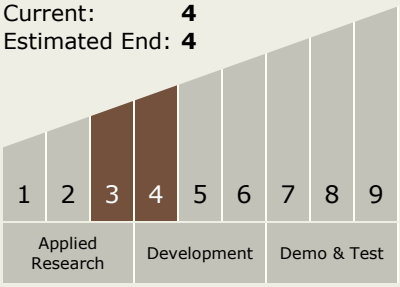
Carlos Torrez

Principal Investigator:

Debra L Schreckenghost

Technology Maturity (TRL)

Start: **3**
Current: **4**
Estimated End: **4**



Semantic Language and Tools for Reporting Human Factors Incidents, Phase II

Completed Technology Project (2010 - 2012)

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.6 Human Systems Integration
    - TX06.6.1 Human Factors Engineering

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System